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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/140,739 08/27/98 ZRNIC

D DOC-9801

PM82/0211

JOSEPH H MCGLYNN
6111 SADDLE HORN DR
FAIRFAX VA 22030

EXAMINER

GREGORY, B

ART UNIT

PAPER NUMBER

3662

6

DATE MAILED:

02/11/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office

NOTICE OF ALLOWANCE AND ISSUE FEE DUE

PM82/050

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APPLICATION NO.	FILING DATE	TOTAL CLAIMS	EXAMINER AND GROUP ART UNIT	DATE MAILED
09/140,739	08/27/98	006	GREGORY, B	3662 02/11/00
First Named Applicant	ZRNIC, 35 USC 154(b) term ext. = 0 Days.			

TITLE OF INVENTION: SIGNAL PROCESSING AND SYSTEMATIC PHASE CODING FOR MITIGATION OF RANGE AND VELOCITY AMBIGUITIES IN DOPPLER WEATHER RADARS

ATTY'S DOCKET NO.	CLASS-SUBCLASS	BATCH NO.	APPLN. TYPE	SMALL ENTITY	FEE DUE	DATE DUE
2 DOC-9801	342-026.000	I03	UTILITY	NO	\$1210.00	05/11/00

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED.

THE ISSUE FEE MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED.

HOW TO RESPOND TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.
If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

- A. If the status is changed, pay twice the amount of the FEE DUE shown above and notify the Patent and Trademark Office of the change in status, or
- B. If the status is the same, pay the FEE DUE shown above.

If the SMALL ENTITY is shown as NO:

- A. Pay FEE DUE shown above, or
- B. File verified statement of Small Entity Status before, or with, payment of 1/2 the FEE DUE shown above.

II. Part B-Issue Fee Transmittal should be completed and returned to the Patent and Trademark Office (PTO) with your ISSUE FEE. Even if the ISSUE FEE has already been paid by charge to deposit account, Part B Issue Fee Transmittal should be completed and returned. If you are charging the ISSUE FEE to your deposit account, section "4b" of Part B-Issue Fee Transmittal should be completed and an extra copy of the form should be submitted.

III. All communications regarding this application must give application number and batch number.
Please direct all communications prior to issuance to Box ISSUE FEE unless advised to the contrary:

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PATENT AND TRADEMARK OFFICE COPY

Notice of Allowability

Application No.
09/140,739

Applicant(s)

Dusan S. Zrnic et al.

Examiner
Bernarr Earl Gregory

Group Art Unit
3662



All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance and Issue Fee Due or other appropriate communication will be mailed in due course.

☒ This communication is responsive to Amendment A of 13 January 2000.

☒ The allowed claim(s) is/are 1-6.

☐ The drawings filed on _____ are acceptable.

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

A SHORTENED STATUTORY PERIOD FOR RESPONSE to comply with the requirements noted below is set to EXPIRE **THREE MONTHS** FROM THE "DATE MAILED" of this Office action. Failure to timely comply will result in ABANDONMENT of this application. Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

☐ Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL APPLICATION, PTO-152, which discloses that the oath or declaration is deficient. A SUBSTITUTE OATH OR DECLARATION IS REQUIRED.

☒ Applicant **MUST** submit NEW FORMAL DRAWINGS

☐ because the originally filed drawings were declared by applicant to be informal.

☒ including changes required by the Notice of Draftsperson's Patent Drawing Review, PTO-948, attached hereto or to Paper No. 3.

☐ including changes required by the proposed drawing correction filed on _____, which has been approved by the examiner.

☐ including changes required by the attached Examiner's Amendment/Comment.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the reverse side of the drawings. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

☐ Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Any response to this letter should include, in the upper right hand corner, the APPLICATION NUMBER (SERIES CODE/SERIAL NUMBER). If applicant has received a Notice of Allowance and Issue Fee Due, the ISSUE BATCH NUMBER and DATE of the NOTICE OF ALLOWANCE should also be included.

Attachment(s)

☐ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

☐ Interview Summary, PTO-413

☐ Examiner's Amendment/Comment

☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

☒ Examiner's Statement of Reasons for Allowance

TEL: (703) 306-5765

Bernarr Earl Gregory

BERNARR EARL GREGORY
PRIMARY EXAMINER
ART UNIT 3662

Art Unit: 3662

1. The following is an examiner's statement of reasons for allowance:

None of the prior art of record either taken alone or taken in any possible combination would anticipate or would tend to render obvious Applicants' claimed "method for resolving range ambiguities and separating signals in a Doppler weather radar" as set forth in independent claim 1 that is particularly characterized by the method step of "phase coding ... with Chu's code" taken in the overall context of independent claim 1.

Dependent claim 2 is allowable for at least the reasons for which claim 1 is allowable.

~~None of the prior art of record either taken alone or taken in any possible combination~~ would anticipate or would tend to render obvious Applicants' claimed "method for resolving range ambiguities and separating signals in a Doppler weather radar" as set forth in independent claim 3 that is particularly characterized by the method step of "compute a mean power ratio of the stronger to weaker trip echo, if ... of the stronger trip echo" taken in the overall context of independent claim 3.

Dependent claim 4 is allowable for at least the reasons for which claim 3 is allowable.

None of the prior art of record either taken alone or taken in any possible combination would anticipate or would tend to render obvious Applicants' claimed "method to filter ground clutter ..." as set forth in independent claim 5 that is particularly characterized by the method step of "multiply column vectors of said matrix $[V_r]$... from said column vectors" taken in the overall context of independent claim 5.

Art Unit: 3662

None of the prior art of record either taken alone or taken in any possible combination would anticipate or would tend to render obvious Applicants' claimed "magnitude domain deconvolution procedure ..." as set forth in independent claim 6 that is particularly characterized by the method step of "rearranging a matrix [Vr] into a column matrix and then carrying ..." taken in the overall context of independent claim 6.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bernarr Gregory whose telephone number is (703) 306-5765.



Bernarr E. Gregory
Primary Examiner
Art Unit 3662

beg

February 10, 2000